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SCHOOL AND SOCIETY

EDITED BY J. McKEEN CATTELL

Volume XXXII SATURDAY, NOVEMBER 29, 1930 Number 831

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EDITED BY J. McKEEN CATTELL

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EDUCATIONAL REVIEW

EDITED BY WILLIAM McANDREW

Volume XXXII SATURDAY, NOVEMBER 29, 1930 Number 831

CHILD HEALTH AND PROTECTION[1]

BY THE PRESIDENT OF THE UNITED STATES

SOMETHING more than a year ago I called together a small group of representative men and women to take the initial steps in organization of this conference on child health and protection. Under the able chairmanship of Secretary Wilbur and the executive direction of Dr. Barnard organization was perfected and enlarged until by the fall of last year something over 1,200 of our fellow citizens were enlisted from every field of those who have given a lifetime of devotion to public measures for care of childhood. These skilful and devoted friends of children have given unsparingly and unselfishly of their time and thought in research and collection of the knowledge and experience in the problems involved. Their task has been magnificently performed, and to-day they will place before you such a wealth of material as was never before brought together.

I am satisfied that the three days of your conference here will result in producing to our country from this material a series of conclusions and judgments of unprecedented service in behalf of childhood, the benefits of which will be felt for a full generation.

I wish to express my profound appreciation to all those who have so generously contributed the time and thought and labor to this preparation, and to you for giving your time to its consideration. The reward that accrues to you is the consciousness of something done unselfishly to lighten the burdens of children, to set their feet upon surer paths to health and well being and happiness. For many years I have hoped for such a national consideration as this. You comprise the delegates appointed by our federal department and by the governors of our states, the mayors of our cities and the representatives of our great national associations, our medical and public health professions. In your hands rest the knowledge and authority outside of the home itself.

In addressing you whom I see before me here in this auditorium I am mindful also of the unseen millions listening in their homes, who likewise are truly members of this conference, for these problems are theirs—it is their children whose welfare is involved, its helpful services are for them, and their cooperation is essential in carrying out a united and nation-wide effort in behalf of the children.

We approach all problems of childhood with affection. Theirs is the province of joy and good humor. They are the most wholesome part of the race, the sweetest, for they are fresher from the hands of God. Whimsical, ingenious, mischievous, we live

[1] Address at the opening session of the White House Conference on Child Health and Protection, Washington, November 20.

a life of apprehension as to what their opinion may be of us; a life of defense against their terrifying energy; we put them to bed with a sense of relief and a lingering of devotion. We envy them the freshness of adventure and discovery of life; we mourn over the disappointments they will meet.

The fundamental purpose of this conference is to set forth an understanding of those safeguards which will assure to them health in mind and body. There are safeguards and services to childhood which can be provided by the community, the state, or the nation—all of which are beyond the reach of the individual parent. We approach these problems in no spirit of diminishing the responsibilities and values or invading the sanctities of those primary safeguards to child life—their homes and their mothers. After we have determined every scientific fact, after we have erected every public safeguard, after we have constructed every edifice for education or training or hospitalization or play, yet all these things are but a tithe of the physical, moral and spiritual gifts which motherhood gives and home confers. None of these things carry that affection, that devotion of soul, which is the great endowment from mothers. Our purpose here to-day is to consider and give our mite of help to strengthen her hand that her boy and girl may have a fair chance.

Our country has a vast majority of competent mothers. I am not so sure of the majority of competent fathers. But what we are concerned with here are things that are beyond her power. That is what Susie and John take on when out from under her watchful eye. She can not count the bacteria in the milk; she can not detect the typhoid which comes through the faucet, or the mumps that pass round the playground. She can not individually control the instruction of our schools or the setting up of community-wide remedy for the deficient and handicapped child. But she can insist upon officials who hold up standards of protection and service to her children—and one of your jobs is to define these standards and tell her what they are. She can be trusted to put public officials to the acid test of the infant mortality and service to children in the town—when you set some standard for her to go by.

These questions of child health and protection are a complicated problem requiring much learning and much action. And we need have great concern over this matter. Let no one believe that these are questions which should not stir a nation; that they are below the dignity of statesmen or governments. If we could have but one generation of properly born, trained, educated, and healthy children, a thousand other problems of government would vanish. We would assure ourselves of healthier minds in more vigorous bodies, to direct the energies of our nation to yet greater heights of achievement. Moreover, one good community nurse will save a dozen future policemen.

Our problem falls into three groups: first, the protection and stimulation of the normal child; second, aid to the physically defective and handicapped child; third, to the problems of the delinquent child.

Statistics can well be used to give emphasis to our problem. One of your committees reports that out of 45,000,000 children:

35,000,000 are reasonably normal.
6,000,000 are improperly nourished.
1,000,000 have defective speech.
1,000,000 have weak or damaged hearts.
675,000 present behavior problems.
450,000 are mentally retarded.
382,000 are tubercular.
342,000 have impaired hearing.
18,000 are totally deaf.
300,000 are crippled.
50,000 are partially blind.
14,000 are wholly blind.
200,000 are delinquent.
500,000 are dependent.

And so on, to a total of at least ten millions of deficients, more than 80 per cent. of whom are not receiving the necessary attention, though our knowledge and experience show that these deficiencies can be prevented and remedied to a high degree. The reports you have before you are not only replete with information upon each of these groups, they are also vivid with recommendation for remedy. And if we do not perform our duty to these children, we leave them dependent, or we provide from them the major recruiting ground for the army of ne'er-do-wells and criminals.

But that we be not discouraged let us bear in mind that there are 35,000,000 reasonably normal, cheerful human electrons radiating joy and mischief and hope and faith. Their faces are turned toward the light—theirs is the life of great adventure. These are the vivid, romping, everyday children, our own and our neighbors' with all their strongly marked differences —and the more differences the better. The more they charge us with their separate problems the more we know they are vitally and humanly alive.

From what we know of foreign countries, I am convinced that we have a right to assume that we have a larger proportion of happy, normal children than any other country in the world. And also, on the bright side, your reports show that we have 1,500,000 specially gifted children. There lies the future leadership of the nation if we devote ourselves to their guidance.

In the field of deficient and handicapped children, advancing knowledge and care can transfer them more and more to the happy lot of normal children. And these children, less fortunate as they are, have a passion for their full rights which appeals to the heart of every man and woman. We must get to the cause of their handicaps from the beginnings of their lives. We must extend the functions of our schools and institutions to help them as they grow. We must enlarge the services of medical inspection and clinics, expand the ministrations of the family doctor in their behalf, and very greatly increase the hospital facilities for them. We must not leave one of them uncared for.

There are also the complex problems of the delinquent child. We need to turn the methods of inquiry from the punishment of delinquency to the causes of delinquency. It is not the delinquent child that is at the bar of judgment but society itself.

Again, there are the problems of the orphaned children. Fortunately we are making progress in this field in some of the states through the preservation for them of the home by support of their mothers or by placing them in homes and thus reducing the institutional services.

There are vast problems of education in relation to physical and mental health. With so many of the early responsibilities of the home drained away by the rapid changes in our modern life, perhaps one of the most important problems we shall need to meet in the next few years is how to return to our children, through our schools and extra scholastic channels, that training for parenthood which once was the natural teaching of the home. With the advance of science and advancement of knowledge we have learned a thousand things that the individual, both parent and child, must know in his own self-protection. And at once the relation of our educational system to the problem envisages itself, and it goes further. The ill-nourished child is in our country not the product of poverty; it is largely the product of ill-instructed children and ignorant parents. Our children all differ in character, in capacity, in inclination. If we would give them their full chance they must have that service in education which develops their special qualities. They must have vocational guidance.

Again, there are the problems of child labor. Industry must not rob our children

of their rightful heritage. Any labor which stunts growth, either physical or mental, that limits education, that deprives children of the right of comradeship, of joy and play, is sapping the next generation.

In the last half a century we have herded 50,000,000 more human beings into towns and cities where the whole setting is new to the race. We have created highly congested areas with a thousand changes resulting in the swift transition from a rural and agrarian people to an urban, industrial nation. Perhaps the widest range of difficulties with which we are dealing in the betterment of children grows out of this crowding into cities. Problems of sanitation and public health loom in every direction. Delinquency increases with congestion. Overcrowding produces disease and contagion. The child's natural play place is taken from him. His mind is stunted by the lack of imaginative surroundings and lack of contact with the fields, streams, trees and birds. Home life becomes more difficult. Cheerless homes produce morbid minds. Our growth of town life unendingly imposes such problems as milk and food supplies, for we have shifted these children from a diet of 10,000 years' standing.

Nor is our problem one solely of the city child. We have grave responsibilities to the rural child. Adequate expert service should be as available to him from maternity to maturity. Since science discovered the cause of communicable disease, protection from these diseases for the child of the farm is as much an obligation to them as to the child of the city. The child of the country is handicapped by lack of some cultural influences extended by the city. We must find ways and means of extending these influences to the children of rural districts. On the other hand, some of the natural advantages of the country child must somehow be given back to the city child—more space in which to play, contact with nature and natural processes. Of these the thoughtless city cheats its children. Architectural wizardry and artistic skill are transforming our cities into wonderlands of beauty, but we must also preserve in them for our children the yet more beautiful art of living.

Even aside from congestion, the drastic changes in the modern home greatly affect the child. Contacts of parents and children are much reduced. Once the sole training school of the child, the home now shares with the public school, the great children's clubs and organizations, and a hundred other agencies the responsibility for him, both in health and discipline, from birth to maturity. Upon these outside influences does his development now very largely depend.

The problems of the child are not always the problems of the child alone. In the vision of the whole of our social fabric, we have loosened new ambitions, new energies; we have produced a complexity of life for which there is no precedent. With machines ever enlarging man's power and capacity, with electricity extending over the world its magic, with the air giving us a wholly new realm, our children must be prepared to meet entirely new contacts and new forces. They must be physically strong and mentally placed to stand up under the increasing pressure of life. Their problem is not alone one of physical health, but of mental, emotional, spiritual health.

These are a part of the problems that I charge you to answer. This task that you have come here to perform has never been done before. These problems are not easily answered, they reach the very root of our national life. We need to meet them squarely and to accuse ourselves as frankly as possible, to see all the implications that trail in our wake, and to place the blame where it lies and set resolutely to attack it. From your explorations into the mental and moral endowment and opportunities of chil-

dren will develop new methods to inspire their creative work and play, to substitute love and self-discipline for the rigors of rule, to guide their recreations into wholesome channels, to steer them past the reefs of temptation, to develop their characters, and to bring them to adult age in tune with life, strong in moral fiber, and prepared to play more happily their part in the productive tasks of human society.

There has not been before the summation of knowledge and experience such as lies before this conference. There has been no period when it could be undertaken with so much experience and background. The nation looks to you to derive from it positive, definite, guiding judgments. But greater than the facts and the judgments, more fundamental than all, we need the vision and inspired understanding to interpret these facts and put them into practice. I know that this group has the vision and the understanding, and you are the picked representatives of the people who are thus endowed. It will rest with you to light the fires of that inspiration in the general public conscience, and from conscience lead it into action.

The many activities which you are assembled here to represent touch a thousand points in the lives of children. The interest which they obtain in the minds and hearts of our country is a turning to the original impulse which inspired the foundation of our nation, the impulse to secure freedom and betterment of each coming generation. The passion of the American fathers and mothers is to lift children to higher opportunities than they have themselves enjoyed. It burns like a flame in us as a people. Kindled in our country by its first pioneers, who came here to better the opportunities for their children rather than themselves, passed on from one generation to the next, it has never dimmed nor died. Indeed human progress marches only when children excel their parents. In democracy our progress is the sum of progress of the individuals—that they each individually achieve to the full capacity of their abilities and character. Their varied personalities and abilities must be brought fully to bloom; they must not be mentally regimented to a single mold or the qualities of many will be stifled; the door of opportunity must be opened to each of them.

May you who are meeting here find in your deliberations new fuel with which to light this flame of progress so that this occasion may be marked with a fresh luster that will set us anew on the road through the crowding complexities of modern life.

A SURVEY AND A CHALLENGE[1]

By Dr. RAY LYMAN WILBUR

SECRETARY OF THE INTERIOR

WE have met in this White House Conference on Child Health and Protection in the hope that we could bring up the general level of child care to the point reached by the outposts of science and weighed social experience. We have had before us the reports of numerous committees representing the various fields of interest. These have been prepared in the finest spirit of service by experienced and expert volunteers who have felt keenly their responsibility to the children and to the nation.

We all have a common aim, which is to prepare the American child physically, mentally and morally more fully to meet

[1] Address at the White House Conference on Child Health and Protection, Friday evening, November 21, 1930.

the responsibility of to-morrow than we have been able to meet that of to-day. We want to see our children developed into adult citizens with wholesome bodies and prepared minds, both under the control of a developed will operating in the atmosphere of what we call character.

We are conscious in the work of the conference and in our observations that the emotional element in mankind must be harnessed by the intellect, or individual and mass decisions will be too variable for either individual happiness or mass safety. We want our future men and women to be self-starters and to operate under their own personal control, not people who follow the herd or develop an emotional storm when confronted by difficulties.

The development of seven pounds of cells and fluids encased in the helpless frame of a baby into a Mozart, a Newton, or a Lincoln is the one great marvel of human experience. But to each mother the development of her baby into a good, useful citizen is the one absorbing and vital experience of life. That development is taking place constantly about us in millions of homes and in tens of millions of individuals. Our studies have shown us that there are perils on every hand for human beings from the very first inception of life. We stand in awe as we watch this current of human life stream by us. Life is our only real possession. It is because of this that its preservation is constantly before us.

Within the past few decades there has been a growing consciousness of the significance of childhood. In so far as organized forces were concerned, aside from those of the church, such responsibility as was assumed for children outside of the home was in the beginning largely based on what we have called charity. We have seen what was once charity change its nature under the broader term welfare and now those activities looked upon as welfare are now coming to be viewed merely as good community housekeeping. In a word, parental responsibility is moving outward to include community responsibility. Every child is *our* child. We have injected so many artificial conditions into our industrial civilization that the old normal relationships of mother and child, child and family, family and neighborhood have been changed. There is now a much less direct struggle with nature and her immediate forces than has ever been the situation before in our country. We have softened this struggle for man by all forms of protection—better houses, better clothing, more and better food supplies, and by preventive medicine and sanitation in general. All of this has called for a delegation of functions, once performed by the individual in the home, to all sorts of outside dependencies.

The increased skills which we have acquired due to the applications of science and discovery have given us exuberant results in agriculture and industry. These with the vast resources of an attractive continent have led to a marked increase in our population. As our mechanism has become more intricate the need of the education and training of all of our units, and also that of the special training of the expert for the different fields of activity, becomes more and more evident. If we compare the mother of the past who nursed her own child to the one who now must rely on prepared foods, we find that between the mother and the child we have a whole series of persons and forces upon which the safety of the child depends—the inspectors of dairy herds, the inspectors of milk, the promptness of delivery systems, refrigeration, medical advice as to the mixing of formulae, the chlorination of water, the preparation of sugars and grains, etc. Each one of these new factors must operate well and must be in the hands of those who know the reasons for what they do. The indicators of failure to do any part of

this task well are the little headstones in the cemetery.

Beyond babyhood we have substituted another whole series of organized services between the mother and her child and have replaced much of the home training of the child with these activities. We have brought in kindergartens, playgrounds and schools under government or private auspices, where the time of the child is spent and where proper training is essential. We face the absolute necessity of making good in all of this through expert service. It is probably true that it is beyond the capacity of the individual parent to train her child to fit into the intricate, interwoven and interdependent social and economic system we have developed. Since we as an organized people have definitely taken on the responsibility, we can only make good in it by the use of those specially trained and by having them work under the best experts we can discover.

The parent *plus* the community must be stronger than either the parent *or* the community alone. Sympathetic, mutual understanding of the division between them of the responsibility for the child must be the order of the day. We have come a long way from the days when boys in our country were "bound out" to neighbors for apprenticeship. We have deliberately prolonged the period of training of a large proportion of our citizens. We have compelled all elements of our population to attend our schools. We throw each year an increasingly heavy burden upon these schools. Our problems and the future of our country are in the school rooms of America to-day. In them are the future presidents of our country, as well as the racketeers. Every one of the elements of our population to be are there right now—the future gamblers, the insane, the criminals, the prostitutes, as well as the business men and women, the lawyers, the physicians, the statesmen, and the laborers of the future, and more significant than all, the mothers and the fathers of the days ahead.

We can now say that we have the problem surrounded. It is there in our school rooms. It is within the joint responsibility of the home and the community, operating in immediate contact with the child. How are we to meet the pressing difficulties before us in dealing with this great mass of forty-odd million children, sixteen million of whom are under the age of six. They are wholly ours to protect and fortify, because they are not yet old enough to have developed satisfactory resistance to disease, nor any degree of self-dependence.

I was deeply impressed as a small boy by a picture called "The Slaughter of the Innocents." It seemed to me to be beyond conception that anybody would want to kill a baby. Yet, through ignorance, neglect, and other failures, our committees have shown us that we are still slaughtering the innocents, and sometimes their mothers, when it could be avoided. Our committees, too, have pointed out to us the difficulties that millions of our children have in the development of bodies and of character in the atmosphere of the city as it has been permitted to grow up. Our industrial centers are just beginning to become aware that the little children of to-day will operate them in the future, and that our eyes must be raised from those balance sheets that we look at annually to measure our successes to see the child and its needs as the real objective of a permanent social order. Our rural areas, in spite of their open spaces, show too high a degree of juvenile misbehavior and those sad transitional blocks where the old city is dying and the new one growing give us clearly the effect of environment upon growing youth.

At the preesnt time the declining birth rate gives us the prospect of a practically stationary number of children entering our schools. There is less immigration than at

any previous period, we are more familiar than ever with the stocks making up our population, and a national program can be viewed with more facts in hand than ever before.

In general, I think that we will agree that we must assist children in their own development, not "bring them up" as has been so often done in the past. We are, I think, convinced, too, that children should not be used as test tubes for opinionated programs, with no worked out basis of science or of fact, and that those who have developed plausible methods without scientific preparation are often of the greatest harm in the handling of our childhood. I think we are all more or less suspicious of those whose hearts impel them to "do good" to children when their minds are untrained or guided by fixed fantasies of the crank type.

Just as we have wisely applied the findings of science in other fields, so must we apply them for the benefit of our children. I think we will all agree that the health of our children is worth any price, and that insofar as the community can do so, it should see to the environment of the child so that the water and food will be pure and there will be no unnecessary exposures to the micro-organisms causing disease. Our knowledge of nutrition is complete enough and our food supply is ample, so that illy nourished children are a community responsibility.

Life is a process that constantly progresses with increasing vigor up to a certain point and then recedes at a diminished rate until we "go over the hill." The most vital and valuable quality in the child is elasticity to meet the new and the unexpected. Early rigidity of the human mind, unconsciously developed at times, leads to most of our mass habits and our mass follies. There is a menace in our marshaled athletics, in our dominated recreations for all ages, in our yelling sections and our over-evident coaches. There is, too, much seeking out of special performers, and not enough play of personal initiative and juvenile leadership. Cooperation is requisite, team play necessary, but the coercion of the crowd is to be fought against if we are to have safety and reasonable action in periods of strain. We need to fight the crystallizing effect of habit upon all of our methods of dealing with the child and particularly with regard to the school curriculum or with other procedures or methods of handling large groups. The machinery of our training programs of all sorts for children must move at as rapid a rate as does the rest of our civilization.

One reason for this conference is to bring us to a common understanding as to where we are in our program for children. One of the most striking facts of life is the diversity of human material. More significant still perhaps is the need of the development of that diversity in order to safeguard our civilization. While we more often think of the few outstanding geniuses of the race, we must remember that there are hundreds of thousands of individuals of preeminent ability in our population at all times. Many of these are serving us but others for lack of opportunity, or lack of self-control, or training, or because of bad habits, the use of drugs or other ulterior influences, have been blighted. While we must seek out and open up the way for those of superior capacity, we must also vigorously discard those artificial factors which often curtail full development. For all we must mould the environment about us with all of our children constantly in our minds.

The intelligent control of our human stock offers a fundamental solution of some of our present difficulties and gives promise of greater future for us as a people.

My sympathy goes out to the child who is facing the years ahead of us. It is not

easy to get along with an active, restless mind receiving new impressions every hour. It is not easy to develop sound habits and sound attitudes in the presence of many diverse influences and varied associates. I imagine, too, that the modern parent with his or her ideas regarding vitamins, codliver oil and conduct, is at times an undesirable associate in the view of many of our children. Children, like the sick, respond to what they understand. More time in explanation often leads to less in correction for disobedience. My sympathy, too, goes out to the children whom we have classified as the handicapped—those who in some way are different from their fellows and yet hope to win out in the game of life. It has been shown that these can be a great social asset to us and that there is much that can be done to make them more effective and happier.

We can not stop for a moment to argue with those who would dodge the responsibility of care for established human life. It is the supreme gift to us humans and we must preserve it at all times. The wretched frame of a little body may have in it the brain and spirit of a Caesar, a Cicero, a Keats, a Washington, a Steinmetz, a Shelley, a Stevenson or a Roosevelt. It is not for us to foretell the potentialities of a baby.

My sympathy goes out even more to those little children whose normal motivation unguided has brought them into the domain of the court. If there is any field in which the word prevention should outweigh any other one, it is in this field, even though this prevention goes back to the very basic structure of our physical civilization. We can ill afford to save expense along this line.

This then covers in rapid fashion some of the different grooves into which the major problems of this conference fall. Restated they are: the problem of how to steady our children against the high power impact of new forces which have developed in our modern civilization.

Of how to protect them physically and mentally to the utmost of our abilities and with the widest possible application of scientific knowledge.

To extend and strengthen those community forces which stand to the child in the place of many of the earlier responsibilities of home and parents.

To evaluate our school curricula in the light of rapid changes in our social scheme, expanding their functions at those points where the modern home is no longer equipped to train children.

At the other end of the line to find ways and means to strengthen the hands of parents through education, as rapidly as possible equipping them with new knowledge concerning children as it develops.

To discover the machinery by which the benefits of preventive medicine and sanitation, of community social and cultural agencies can be extended to all children—in the country as well as the city—which too often now are enjoyed by the privileged few.

And in the midst of our crowding eagerness to help lift our children to higher levels, to guard them against our own overzealous programing—to leave to them sufficiently wide margins of free time and free space for the great and joyous adventure of growing up as personalities operating under their own motive power.

With all this that is now open before us, we have the challenge of the future. We find it not only here in the United States, but also in Porto Rico, where the conditions for children are deplorable, and also in the Philippines.

What are we going to do to take advantage of the great opportunities offered by the findings of this conference? I realize that this is a zone in which the art as well as the science of government must be considered. We have the information, we

have a large program. How shall it be put into effect? In the first place, it seems to me that we must force the problem back to the spot where the child is. This primarily means, and should mean, the home. Our function should be to help parents, not replace them. The accessories which our civilization has brought for the care, protection and development of the child should be accessories to the home and not supplant it. The success of our civilization has come through the relationship of the home to children and consequently to citizenship. In other words, there must be a decentralization into the local field of the great mass of the problems which we have been studying. There must likewise be decentralization of the information which we have gathered so that it will reach every mother and father, school board, health officer and legislator in the country.

The great need for us to deal with in this conference is that of getting the gist of our discussions back into action in the lives of children in this country—black and white, yellow and red, rich and poor, and all that lies between. Your deliberations, therefore, have two aspects; to make your facts and findings a true harvest of science and experience; and to develop the means of putting all we have brought together to work for the good of children.

Since a child is growing or developing all of the time, not just when he is at home or in the schoolroom, we must think in terms of playmates, radios, moving pictures, gangs, books and magazines, both good and bad, and all that the child sees in environment, as a part of his training process. We have a foul nest to clean out in our vulgar degraded marginal magazines, and need to bring drama and comedy back to again serve in the uplift instead of the degradation of our civilization.

We need to keep little hands busy, we need the discipline of accepted regular tasks, we need to permit our youth to receive a reward for their own efforts, but can we not so organize that these little hands can be kept out of the day to day operations of our industries?

By a study of vocational aptitudes and interests from infancy on we should be able to brighten the ordered life of the school child by appropriate opportunities rather than to dull the edge of youth with the "has beens" of the past. We adults are full of outworn ideas and too inclined to think we are equal to the experts in the fields of education. The superiority of the foreign worker to the American in many branches of industry, among both men and women, lies in the fact that they have been trained from their early years in manual skills. Vocational training beginning only a year or two in advance of youth's entry into his life's job is like trying to develop a virtuoso with a correspondence course in music.

America has become great in its social organization because of two coordinated operations. One is that of the volunteer agency, and the other is that of the government agency. In the field of child care for decades a whole series of volunteer agencies, such as the churches and welfare organizations of all sorts, have been operating. When these volunteer agencies have tested out certain procedures and shown the desirability of giving them a wide spread, they have in the course of decades and generations been adopted by the government itself, so that we now have public schools and teachers, hospitals and health officers, and a growing number of government services directly for the children.

It seems to me that our greatest danger in trying to carry out the results of this conference would be to have too scattered a program or to centralize it too much. Its safety will lie in its trial in the small units of the counties and the states. We must go back to the local unit for effective education or health or welfare work. We want a minimum of national legislation in this field. No one should get the idea that Uncle Sam is going to rock the baby to

sleep. There is, though, much that can be done through wise legislation in the securing of information, in the keeping of this information up to date, and in sending it out to all parts of the country as it is digested and understood. We can, too, provide examples and give stimulation in the early periods of local organization. It seems to me that this conference offers a challenge to each of us, no matter where he may live or what he may be doing, to see that in his community our findings are understood and acted upon. I think there will come from it an increased range of activities for the schools and in public health. I think, too, that the forces of law will soon learn to use the expert in a dozen fields in attempting to solve the problem of the child that has breached some statutory provision. I count it a major sin of our country that we permit immature boys and girls to be contaminated in the sordid pool of our confined criminals.

My experience has taught me to forgive almost anything that a growing youth may do, since maturity of viewpoint comes at different periods, with different people, and with maturity there comes to most of us a stability of outlook which can usually be depended upon. There is always hope that every child who is not intellectually blighted can contribute some service to his country. In each conscience and temptation struggle, in each there is the driving impulse towards decency, honesty and fair play. Even criminals shoot square with their kind. Providence has given an inner guiding light to all. Let us help so that this light may burn brightly and not be stifled by a murky atmosphere of our own creating. Let us endeavor to see that every child in every part of the country gets that opportunity which is the best for him to grow into participating citizenship. By so doing, we insure the happiness of those who will follow us and the safety of our republic.

EDUCATIONAL EVENTS.

EDUCATIONAL FILMS IN GREAT BRITAIN

THE London *Times* notes that although there has lately been an increase in the number of educational films produced in Great Britain, the use of the film as a means of education is still far from being generally adopted. In England and Wales a survey recently undertaken by the newly constituted National Commission on Educational and Cultural Films has shown that the total number of schools which to-day possess cinema projectors is no more than 268. The main stumbling-block hitherto, according to the *Times*, has been the fact that the few companies which have produced excellent educational pictures and want to produce more can not get an adequate market for their products, while educational institutions which desire to use the film can not obtain the right subject. Only on rare occasions have film producers and teachers been in touch with one another. This obstacle, however, is likely to be removed in the near future by the National Commission on Educational and Cultural Films, which has set up a special committee to deal with the problem of cooperation between the various organizations concerned.

Compared with other countries there is no doubt that Great Britain lags seriously behind them in the use of the educational film. In commenting on the methods adopted by other nations, Mr. J. R. Orr, the assistant secretary of the commission, points out that Italy, for example, has divided up the whole country into 19 provinces, with 19 film libraries for the schools of each province. Projectors are being installed by thousands in the schools and traveling exhibitions organized for the villages. In France there are already 16,000 to 18,000 projectors in schools and other educational institutions, and there is also a national cinema organization, of which the scientific side is very highly developed. In Germany, in addition to the *Kulturforschung Institut* in Berlin, a special cinema office has been established to approve artistic, educational and cultural films.

The *Times* considers as perhaps the most interesting advance in connection with he educational film the foundation of the Harvard Film Institute, attached to Harvard University. The foundation fund of this institute is $200,000. In the United States there are 800,000 logical outlets for motion pictures in places other than the cinema theater and the home.

In England most of the pioneer work on the production of instructional films has been done by British Instructional Films, Limited, of which Mr. Bruce Woolfe is the chairman. Over 10 years ago this firm, more with faith in the future of visual education than with much idea of immediate profit, set itself to develop this field by producing the now well-known series of *Secrets of Nature*. To this series such eminent experts in their various departments of knowledge as Mr. F. Martin Duncan, Mr. W. P. Pycecroft, Professor A. P. Newton, Professor Maxwell Lefroy and Mr. Edgar Chance have contributed. Among the more recent contributions to this series are six talking pictures—*"Sea Level,"* a picture "which shows the serious traffic problem that exists under water"; *"Marine Models," "Safety in Hiding," "The Daily Dozen at the Zoo"* and *"The Flight Machine,"* a study of the flight of birds as compared with the flight of aeroplanes. The sixth film is another of Mr. Percy Smith's studies of fungi and mushrooms.

Visual Education, Limited, has also been at considerable pains to discover how the new device of talking films can be brought to the service of schools and other institutions not in a position to install elaborate sound apparatus. Six of their best nature subjects were therefore chosen, and arrangements made for Sir J. Arthur Thomson to lecture on them.

RESERVATION OF BROADCASTING CHANNELS FOR EDUCATIONAL INSTITUTIONS

PERMANENT and exclusive assignment of a minimum of 15 per cent. of all radio broadcasting channels to educational institutions and government educational agencies, for the furtherance of education by radio, will be recommended to Congress by educators of the country, according to a statement made to a representative of the *U. S. Daily* at the United States Office of Education.

A resolution to this effect was adopted on October 13 by the Conference on Radio and Education, held in Chicago at the call of the Commissioner of Education, William John Cooper. At the same time the conference recommended immediate organization of a committee of prominent educators to formulate definite plans and recommendations "for protecting and promoting broadcasting originating in educational institutions."

Mr. Armstrong Perry, specialist in education by radio, cooperating with the Office of Education, stated that steps are now being taken formally to apprise the Congress of the recommendations of the educators. He said that the Chicago conference was in the nature of a round-table discussion of leading figures in network broadcasting with educators, Commissioner Harold A. Lafount representing the Radio Commission.

The resolution proposing the assignment of 15 per cent. of the broadcasting channels to education is as follows:

> The Conference on Radio and Education, meeting in Chicago, October 13, 1930, recommends that the Congress of the United States enact legislation which will permanently and exclusively assign to educational institutions and government educational agencies a minimum of fifteen (15) per cent. of all radio broadcasting channels which are or may become available to the United States.
>
> The conference believes that these channels should be so chosen as to provide satisfactory educational service to the general public.

Another resolution passed at the meeting, relating to the appointment of the special committee, follows:

> *Resolved*, That the meeting recommend the immediate organization of a committee, the members of which shall be duly accredited representatives of the Association of College and University Broadcasting Stations, the Land-Grant College Association, the National University Extension Association, the National Association of State University Presidents, the National Education Association, the National Catholic Education Association, the Jesuit Education Association, the National Advisory Council on Radio Education, the Payne Fund and other similar groups, for the purpose of formulating definite plans and recommendations for protecting and promoting broad-

casting originating in educational institutions, and broadcast by educational institutions, and for presenting the same, when advisable, to appropriate authorities and interested parties, and that the Federal Office of Education be given the responsibility for notifying the aforementioned groups of the deliberations and debate at Chicago on October 13, 1930, and for calling an organization meeting of this committee at the earliest possible moment.

SCHOOLS OF THE STATE OF NEW YORK IN 1828 AND 1928

AN indication of the growth in education in the state of New York during the past one hundred years is gained from a comparison of reports for the years 1829 and 1929. A contemporary review of the 1829 Annual Report of the Superintendent of Common Schools in the State of New York makes the following statement:

> Nothing gives us such magnificent conceptions of the real power and future resources of our great confederated Republic as such statements as this before us. We are ready to believe it the most complete and detailed view of schools in a particular republic that can be found in the world. We have space only for some of the details of the grand result. The returns are from 55 counties and 757 towns and wards; 8,069 school districts have made reports. The number of school districts in 1827 is exceeded by that of 1828 by 358 schools. The number of children taught in schools has increased since the last annual report by 29,897. The capital of the common school fund amounts to $1,684,628.80. The annual avails are $61,854. The number of children taught makes the grand total 468,205. The children taught between the ages of five and fifteen amount to 449,118. No state in the Union can show such a proud and detailed document on a subject of such unspeakable importance.

During the year 1927–28 reports were received from the following: 45 colleges, 83 professional and technical schools, 11 other higher institutions, 249 academies, 10 normal schools, 5 special schools, 75 other institutions and associations, 59 cities, 84 villages under superintendents and 208 district superintendents. The reports from district superintendents include data for 9,566 school districts, of which 617 maintained academic departments.

The cost of maintaining the schools was $223,542,544, exclusive of expenses of debt service and capital outlay. Including these items the total amount expended was $324,405,895. Excluding payments for new buildings out of moneys raised by bonds, short-term loans, payments to sinking fund and refunds, the total expenditures were $262,854,836. Of this amount the state paid $72,112,572, including $564,686 federal aid paid through the state. The receipts from tax on property were $194,113,754.

The census of children from birth to 18 years of age was 3,472,435.

The number of pupils registered in the day classes of the public schools was 2,058,716, which is an increase of 38,290 over the previous year. Of this number 362,313 were registered in the high schools.

There were also registered in evening schools 230,465 pupils, of whom 46,410 were registered in evening high schools maintaining full four-year courses.

COURSES ON THE MECHANICS OF VISUAL INSTRUCTION IN THE AMERICAN MUSEUM OF NATURAL HISTORY

THE American Museum of Natural History has opened to teachers of the New York City schools a course on the use of apparatus in visual instruction. It is entitled "The Mechanics of Visual Instruction."

The course forms a series of demonstrations with individual laboratory work in which the members of the course handle the apparatus and learn exactly how to make use of it for classroom work. The lectures are given from 4 until 5:40 P. M. every Thursday, and each teacher attending receives thirty hours credit by the Board of Education.

Because of limitation of equipment it was found necessary to limit the registration to twenty members. The course covers the entire first term up to January 29, 1931. A complete notebook is kept by each student and will be submitted for approval at the end of the course.

The lectures cover such subjects as "Optical Principles in Projection," accompanied by a demonstration lesson with stereopticon lantern; "Practical Laboratory Work in Lantern Slide Projection," in which light centering adjustment of condensers and mirrors, proper posi-

tion of slides and objective lens and focusing were stressed; "Problems in Still Projection," in which teachers show their ability to correct faulty adjustment in various stereopticons: "Four Types of Slides," the photographic, India ink on glass, typewritten on celluloid, ground glass with ink or crayons; "Simple Magnifying Glasses and Use of the Compound Microscope."

Among the lecturers are Curator George H. Sherwood, L. Wales Holden, in charge of projection; Mrs. Grace Fisher Ramsay and Dr. Clyde Fisher.

The course is free to the teachers of the public schools.

MAGAZINE IN THE FIELD OF MENTAL HYGIENE EDUCATION

THE Massachusetts Society for Mental Hygiene announces that through the generosity of the Godfrey M. Hyams Trust it will begin the publication early in January of a quarterly to be called *Understanding the Child*. This new magazine will be distributed free to every teacher in the public schools of Massachusetts. Its purpose is to bring to them a knowledge of the principles and practices of mental hygiene. As Dr. Burnham has stated, "In the business of understanding the child, mental hygiene is vastly helpful to parents and teachers. One reason for this is the fact that education is concerned especially with the primary results of teaching—knowledge, certain forms of skill, the development of interests in certain subjects. Mental hygiene is concerned with certain secondary results—habits of attention, of study, and work, certain health interests, healthful associations and wholesome mental attitudes. The very fact that hygiene is primarily concerned with the latter and not with the educational interests and attitudes enables the hygienist to see many things significant for the health of children that both parents and teachers are apt to overlook."

The editorial direction of the magazine has been placed in an editorial board consisting of J. Mace Andress, editor, and Dr. E. Stanley Abbot and Dr. Henry B. Elkind, associate editors. There will be a consulting editorial board of fifteen members, composed of experts in the fields of mental hygiene and education, such as William H. Burnham, C. Macfie Campbell, Augusta F. Bronner, Payson Smith, Lawrence A. Averill and others. This board, together with the editors, will insure a high standard not only from the point of view of presentation, but from that of scientific accuracy.

A small annual subscription fee to the magazine will be charged for those who are not public school teachers in Massachusetts.

ATTENDANCE AT THE WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION

MORE than 3,000 delegates and visitors registered for the White House Conference held in Washington from November 19 to 22. Twelve hundred of these were members of the committees appointed a year and a half ago to gather the material which was presented at the meeting. In addition to the President, the speakers included Secretary Wilbur and Secretary Davis, Miss Grace Abbott, chief, U. S. Children's Bureau, and Miss Martha Van Rensselaer, director of the College of Home Economics at Cornell University.

At dinner and luncheon meetings on Thursday and Friday subjects such as juvenile delinquency, parent education, child nutrition, children and unemployment, the child and the police and the child in the community were discussed informally. The list of speakers included Dr. Willis Sutton, president of the National Education Association; Homer Folks, secretary, State Charities Aid Association; Mrs. F. Louis Slade, director of New York League of Women Voters; William J. Ellis, commissioner, State Department of Institutions and Agencies; Miss Frances Swain, president of the American Home Economics Association; Dr. Louise Stanley, chief of the United States Bureau of Home Economics; Miss Grace Abbott; Dr. James Ford, executive director, Better Homes in America and associate professor of social ethics at Harvard University; Judge Frederick P. Cabot, Juvenile Court, Boston; Jessie F. Binford, director, Juvenile Protective Association of Chicago; Calvin Derrick, superintendent, New Jersey State Home for Boys; Judge George M. Read, Probate Court, Juvenile Division, Detroit; Lawrence K. Frank, New

York City; Dr. James S. Plant, director, Essex County Juvenile Clinic, Newark, New Jersey.

Among those who accepted the President's invitation to attend the conference are:

President James R. Angell, of Yale University; Reverend Dr. Carl J. Alter, director of the National Catholic School of Social Work; Dr. Cyrus Adler, Dropsie College, Philadelphia; President Edwin Anderson Alderman, University of Virginia; Dr. Sophonisba P. Breckinridge, University of Chicago; Clifford W. Beers, secretary, National Committee for Mental Hygiene; Robert W. Bingham, publisher, *The Courier-Journal* and *The Louisville Times;* President E. C. Brooks, North Carolina State College of Agriculture and Engineering; President William Lowe Bryan, of Indiana University; Dr. George K. Burgess, National Bureau of Standards; Dr. E. Gil Borges, Pan American Union; Dr. Herman N. Bundesen, *Chicago Daily News;* Samuel P. Capen, University of Buffalo; President Walter E. Clark, University of Nevada; President L. D. Coffman, University of Minnesota; President Norman F. Coleman, Reed College, Portland, Oregon; President Ada L. Comstock, Radcliffe College; Richard K. Conant, Department of Public Welfare, Boston; William Knowles Cooper, Federal Council of Churches; Senator Royal S. Copeland; President George H. Denny, University of Alabama; Dr. John M. Dodson, American Medical Association; President D. M. Douglas, University of South Carolina; Dr. Haven Emerson, Columbia University; President F. D. Farrell, Kansas State Agricultural College; President Glenn Frank, University of Wisconsin; Dr. Paul Hanly Furfey, The Catholic University of America; President Livingston Farrand, Cornell University; President John C. Futrall, University of Arkansas; Shelby M. Harrison, vice-general director, Russell Sage Foundation; Dr. Merritte W. Ireland, surgeon-general, War Department; President Bradford Knapp, Alabama Polytechnic Institute; Mrs. Frances Parkinson Keyes, of New Hampshire; Dr. Samuel McCune Lindsay, of Columbia University; President C. A. Lory, Colorado State Agricultural College; Colonel Robert R. McCormick, *The Chicago Tribune;* President Frank L. McVey, University of Kentucky; Dr. C. R. Mann, American Council on Education; Mrs. William Brown Meloney, editor, Sunday Magazine, *New York Herald-Tribune;* President John C. Merriam, Carnegie Institution of Washington; Henry Allen Moe, of the John Simon Guggenheim Memorial Foundation; Frank Morrison, secretary American Federation of Labor; Lewis E. Myers, The Children's Foundation; Morgan J. O'Brien, of New York City; Dr. Thomas Parran, Jr., New York State Department of Health; Dr. Wendell C. Phillips, of New York City; Dr. Charles Edward Riggs, surgeon-general of the Navy; L. S. Rowe, director-general, Pan-American Union; Mrs. A. H. Reeve, of Philadelphia; Mrs. Aurelia Henry Reinhardt, president of Mills College, California; Mrs. Raymond Robins, of Florida; President R. S. Shaw, Michigan State College; Dean J. H. Skinner, Purdue University, Indiana; John C. Shaffer, of Chicago; Mrs. John F. Sippel, president, General Federation of Women's Clubs; Mrs. F. Louis Slade, of New York City; Miss Emily Solis-Cohen, of Philadelphia; Roger W. Straus, of New York City; Dr. Felix J. Underwood, of Jackson, Mississippi; John T. Vance, of the Library of Congress; Lawrence Veiller, of the National Housing Association; Miss Lillian Wald, of Henry Street Settlement, New York City; Dr. William H. Weld, of Baltimore; Percy Waxman, editor, *Pictorial Review;* Dr. Olin West, American Medical Association; President Ernest H. Wilkins, Oberlin College; Daniel Willard, of Baltimore; Matthew Woll, of the American Federation of Labor; President Mary T. Woolley, Mt. Holyoke College.

NINETEEN POINTS OF THE WHITE HOUSE CONFERENCE

THE report of the White House Conference makes the following recommendations:

1.—Every prospective mother should have suitable information, medical supervision during the pre-natal period, competent care at confinement; every mother should have post-natal medical supervision for herself and child.

2.—Every child should receive periodical health examinations before and during the school period including adolescence, by the family physician, or the school or other public physician, and such examination by specialists and such hospital care as its special needs may require.

3.—Every child should have regular dental examination and care.

4.—Every child should have instruction in the schools in health and in safety from accidents, and every teacher should be trained in health programs.

5.—Every child should be protected from communicable diseases to which he might be exposed at home, in school or at play, and protected from impure milk and food.

6.—Every child should have proper sleeping rooms, diet, hours of sleep and play, and parents should receive expert information as to the needs of children of various ages as to these questions.

7.—Every child should attend a school which has proper seating, lighting, ventilation and sanitation. For younger children, kindergartens and nursery schools should be provided to supplement home care.

8.—The school should be so organized as to discover and develop the special abilities of each child and should assist in vocational guidance, for children, like men, succeed by the use of their strongest qualities and special interests.

9.—Every child should have some form of religious, moral and character training.

10.—Every child has a right to a place to play, with adequate facilities therefor.

11.—With the expanding domain of the community's responsibilities for children there should be proper provision for and supervision of recreation and entertainment.

12.—Every child should be protected against labor that stunts growth, either physical or mental, that limits education, that deprives children of the right of comradeship, of joy and play.

13.—Every child who is blind, deaf, crippled or otherwise physically handicapped should be given expert study and corrective treatment where there is the possibility of relief and appropriate development or training. Children with subnormal or abnormal mental conditions should receive adequate study, protection, training and care.

14.—Every waif and orphan in need must be supported.

15.—Every child is entitled to the feeling that he has a home. The extension of the services in the community should supplement and not supplant parents.

16.—Children who habitually fail to meet normal standards of human behavior should be provided special care under the guidance of the school, the community health or welfare center, or other agency for continued supervision, or if necessary, control.

17. Where the child does not have these services, due to inadequate income of the family, then such services must be provided to him by the community.

18.—The rural child should have as satisfactory schooling, health protection and welfare facilities as the city child.

19.—In order that these minimum protections of the health and welfare of children may be everywhere available, there should be a district, county or community organization for health education and welfare, with full-time officials coordinating with a state-wide program which will be responsible to a nation-wide service of general information, statistics and scientific research. This should include:

(a)—Trained full-time public health officials with public health nurses, sanitary inspection and laboratory workers.

(b)—Available hospital beds.

(c)—Full-time public welfare services for the relief and aid of children in special need from poverty or misfortune, for the protection of children from abuse, neglect, exploitation or moral hazard.

(d)—The development of voluntary organization of children for purposes of instruction, health and recreation through private effort and benefaction. When possible, existing agencies should be coordinated.

EDUCATIONAL NOTES AND NEWS

DR. GEORGE H. DENNY, president of the University of Alabama, was elected president of the National Association of State Universities at the closing session of its convention held in Washington, D. C., on November 21. Other officers elected were Dr. George Thomas, president of the University of Utah, *vice-president*, and Dr. Alfred H. Upham, president of Miami University, *secretary*. Dr. Harry Woodburn Chase, of the University of Illinois, and Dr. Lotus D. Coffman, of the University of Minnesota, were named to serve with the officers on the executive committee. Dr. Coffman is the retiring president of the association.

MR. C. M. YODER, director for the past eleven years of commercial education at Whitewater, Wisconsin, State Teachers College, has been chosen president, succeeding Mr. Frank S. Hyer, newly appointed president of Stevens Point Teachers' College.

THE REVEREND CHARLES A. ANDERSON has been elected president of Tusculum College at Greeneville, Tennessee. He will succeed Dr. Charles Oliver Gray, who will become president emeritus on February 1. Mr. Anderson has for nearly ten years been the Presbyterian pastor at the University of Pennsylvania.

DR. ALAN GREGG has been appointed director for the medical sciences of the Rockefeller Foundation. He will occupy the position vacated by the death on February 16 of Dr. Richard M. Pearce, Jr., in whose work he had for many years closely participated as associate director for the medical sciences. Dr. Gregg will assume his new duties on January 1, 1931. He first took up his work with the Rockefeller Foundation as a field staff member of the International Health Board in 1919.

THE following college presidents were recently appointed to represent the interests of the colleges of liberal arts as they relate to the Ohio State Department of Education: Presidents E. D. Soper, Ohio Wesleyan; C. F. Wishart, Wooster; E. S. Parsons, Marietta; E. H. Wilkins, Oberlin, and W. G. Clippinger, Otterbein.

DR. HARLAN H. HORNER has been named director of state college education in the New York State Education Department under a provisional appointment subject to civil service regulations. He has resigned as executive secretary of the New York State Teachers Association and editor of the association's magazine, *New York State Education*. Succeeding him as executive secretary of the New York State Teachers Association is Arvie Eldred, who has been superintendent of schools at Troy.

MR. CLYDE R. MILLER, director of the Bureau of Educational Service of Teachers College, Columbia University, has been appointed a member of the advisory board of the Progressive Education Association.

THE Board of Education of St. Louis has elected Emil J. Barth as president and Myrt A. Rollins as vice-president.

A TESTIMONIAL dinner to Dr. David E. Weglein, superintendent of public instruction in Baltimore, was given recently in celebration of the fifth anniversary of Dr. Weglein's induction into office. Speakers included Dr. Joseph S. Ames, president of the Johns Hopkins University; Mr. William L. Rawls, president of the school board; Dr. Norman Crozier, superintendent of public instruction of Dallas, Texas, and president of the National Association of Public School Superintendents; Mrs. William Bauernschmidt, secretary of the Public School Association; Mr. Theodore Roosevelt McKeldin, secretary to Mayor Broening, and Mr. Waldo Newcomer. The dinner was given under auspices of the Public School Association with more than 500 in attendance.

R. W. FAIRCHILD, for the last seven years superintendent of schools at Elgin, Illinois, has joined the staff of the school of education at Northwestern University. He has charge of the work in school administration.

DR. ARTHUR T. JERSILD, formerly assistant professor of psychology at the University of Wisconsin, has been appointed assistant professor of education and research associate in the Child Development Institute of Teachers College, Columbia University.

EDWARD J. SPARLING has accepted a position as vocational counselor and assistant professor of vocational guidance at Long Island University, Brooklyn.

IN appreciation for his long services as registrar of the University of North Carolina and for organizing the work of examining credentials, the title of dean of admissions and registrar has been conferred upon Dr. Thomas J. Wilson, Jr., by vote of the trustees' executive committee.

DR. BARNETT FRED DODGE, assistant professor of chemical engineering in the Sheffield Scientific School of Yale University, has been promoted to an associate professorship.

PROFESSOR SIR WILLIAM L. BRAGG, director of the Royal Institution, London, who was awarded the Nobel Prize in physics in 1915, has accepted an invitation to be the George Fisher Baker non-resident lecturer in chemistry at Cornell University for the first term of 1931–32.

DR. CARL WALTER KOCKEL, professor of geology at Leipzig, is visiting professor at the Johns Hopkins University during the winter semester.

DR. FREDERIC AUSTIN OGG, professor of political science and chairman of the Graduate Division of Social Studies of the University of Wisconsin, will be a visiting professor at the summer session of George Washington University.

PROFESSOR BERNHARD J. STERN, formerly assistant professor of sociology at the University of Washington, has joined the editorial staff of the Encyclopaedia of Social Sciences.

A. R. ESCHLIMAN, dean of the Junior College at Freeman, South Dakota, for the past ten years, has resigned to become field secretary of the State Sunday School Association.

PROFESSOR DONALD P. COTTRELL, of the staff in higher education at Teachers College, Columbia University, is making a study of a number of higher education institutions in Great Britain and on the Continent. He will return early in June of next year.

PROFESSOR JAMES H. S. BOSSARD resumes his academic work at the University of Pennsylvania after a twenty months' leave of absence, during which time he conducted, with Professor J. F. Dewhurst, of the department of industry, a survey of business and collegiate education for business in the United States. The report of this study, which was made for the Wharton School of Finance and Commerce, will be published by the University of Pennsylvania Press.

PROFESSOR GEORGE S. COUNTS has succeeded Professor Daniel H. Kulp as president of the National Society for the Study of Educational Sociology, with Professor B. F. Stalcup, of New York University, as secretary.

DEAN RAYMOND WALTERS, of Swarthmore College, addressed the faculty of the University of Chattanooga on "Honors Work at Swarthmore" on November 24, and also gave a talk before the undergraduates of the university.

WILL IRWIN, novelist and story writer, will deliver the annual series of lectures provided for in the Honnold endowment at Knox College. They will cover a period of six weeks beginning next April.

CLEMENT W. ANDREWS, librarian of the John Crerar Library from 1895 until 1928, when he was appointed librarian emeritus, died on November 20 at the age of seventy-two years. Mr. Andrews had been lecturer on theoretical chemistry and in optical analysis at the Massachusetts Institute of Technology, where he became in 1889 librarian and editor of *The Technology Quarterly*. In 1906 he was elected president of the American Library Association.

THE death is announced of Charles T. Andrews, editor and educator. Mr. Andrews taught in various schools, finally becoming supervisor of state schools in the New York State Department of Public Instruction, where for a number of years he dealt with administrative problems of normal schools, Indian and other special state schools. Throughout his life Mr. Andrews was a journalist. Among his six surviving children are General Lincoln C. Andrews, president of the Connecticut Utilities Corporation; Dr. Benjamin R. Andrews, professor of household economics in Teachers College, Columbia University, and Don E. Andrews, vice-president of the General Rubber Company.

THE professional library of the late Professor Alfred L. P. Dennis, of Clark University, containing a valuable collection of historical and diplomatic manuscripts has been presented to the university by Mrs. Dennis.

NEXT year's session of the Association of American Universities will be held at the University of North Carolina during November or December.

THE Conference of Church Workers in Colleges and Universities of the United States will meet in triennial session at Edgewater Beach Hotel, Chicago, on December 31 and January 1 and 2. According to present plans, guest leaders of the conference include Rufus M. Jones, Charles A. Ellwood, Arthur H. Compton, Henry Nelson Wieman, Frank O. Holt, Raymond M. Hughes and President W. L. Lingle. Members of the conference who are expected to appear upon the program include William P. Lemon, Lewis B. Hillis, David R. Porter, J. Elliot Ross, Harold Carr, George R. Baker, M. Willard Lampe, Harry Thomas Stock, Dana G. How, Lee J. Levinger, C. Leslie Glenn, Charles W. Gilkey and others. For further information address the chairman, Dr. Milton C. Towner, Department of Higher Education, University of Chicago, Chicago, Illinois.

THE University of Denver will conduct an excursion to Mexico City next June for teachers and students of Spanish and Archeology. Miss Benecia Batione, professor of Spanish in the university, will accompany the party.

THE second Regional Crime Conference in Indiana, called by Governor Harry G. Leslie, was held at Ball State Teachers College at Muncie, Indiana, on November 22. The conference was under the auspices of the Indiana Committee on Observance and Enforcement of Law, appointed by the governor. Ball College and the city of Muncie were joint hosts to approximately 400 representative citizens of the twelve counties included in the region. Professor Robert R. LaFollette, head of the department of social science at the college and chairman of the committee on regulations and arrangements, secured among speakers for the conference, Clifford R. Shaw, of Chicago, research member of the Hoover Law Enforcement Commission, who spoke on "Underlying Causes of Crime," and Judge Harry Olsson, chief justice of the municipal court, Chicago, who discussed "The Criminal in Court." Three sessions were held. An effort was made to determine why there is more crime in some counties than there is in others. The actual situation in each county was discussed, and methods whereby local groups and agencies can meet the situation and prevent crime and delinquency were suggested.

DR. HOWARD W. OXLEY, of the Phelps Stokes Fund, has been appointed to succeed the late James L. Silbey as educational adviser to the Committee of Education in Liberia. Dr. Oxley's duties will be to advise the mission boards as to the best methods of coordinating their educational work to eliminate overlapping and to adapt the work to meet the needs of the Liberian people. He also will be in charge of the Booker Washington Institute of Agriculture and Industry at Kakata, Liberia, for which the Liberian Government already has donated 1,000 acres and has promised to give $5,000 a year for the next ten years for its upkeep. It is hoped that eventually the institute will be a laboratory for the working out of the education experiments of the various organizations of Liberia. The educational advisory staff, of which Dr. Oxley is chairman, consists of Harold R. Bare, an agricultural specialist, and F. E. Charleston, principal of the Booker Washington Institute of Liberia. Arrangements will be made for assistants and for specialists in teacher training. Miss Olivia Phelps Stokes bequeathed $75,000 toward the establishment of educational facilities in Liberia. The Methodist Episcopal Board of Foreign Missions donated $25,000 and the Liberian Government has pledged $50,000.

DISCUSSION

PROFESSORIAL TALENTS AND FACULTY ASSIGNMENTS

IN a recent address given by the dean of the college of education of one of America's leading universities the point was made that one reason why so few students read significant new books of broad general interest is because the faculty members themselves do not read them. This challenge stimulated anew a strong desire to express the writer's reflections on what seems to him an inadequately recognized qualification for undergraduate college teaching.

This qualification has been emphasized sharply by certain recent experiences. The last two years the writer has spent in graduate work, receiving a Ph.D. degree during this last summer. The intensive nature of the work in the major and in the minor fields, together with the dissertation, required long arduous days of effort and left little time or inclination for other activities.

Prior to this period of graduate work but after receiving the master's degree, six years were spent as a college instructor in courses in education. During this period the writer wrote no text-books, but did carry on some research on local institutional problems. Believing that one who would teach others must have perspective and a sense of relative values, a reading program was followed which included the literature of the writer's own field and of related scientific fields, several high-grade magazines emphasizing social, economic and political materials, books of non-fiction which possessed outstanding merit and some occasional worth-while works of fiction. Through social contacts and

travel an effort was made to further keep in touch with the concrete realities of our social and industrial life. An effort was made to relate this material and to use it directly or indirectly in the writer's teaching when possible to do so legitimately. Needless to say the view of one's own subject is greatly modified by such a broad encompassing of the fields of human thought and scientific endeavor.

During the period of graduate work for the Ph.D. degree the reading was far more specialized, little time being available for the broader general fields. Further the writer is now teaching in a university where the emphasis is upon research. Observing those about him he has found that a research emphasis tends to increasingly specialize their interests. The typical research men are introverted lone workers. More and more their thinking and their very heart and soul go into their specialized problems. Within one subdivision of a given field they become increasingly expert and penetrating. They can with justifiable pride feel that in that one field they are on the frontier of human knowledge. No intelligent man can fail to recognize the tremendous importance of their work. Human progress demands that such workers must be increasingly rewarded, and increased in numbers. There is no effort here to minimize the vast importance of their work.

However, if the question is raised as to which type of individual is best fitted for undergraduate college teaching, the answer to the writer is unmistakable—it is the teacher-scholar who is a student of all human thought with his own field as a center of interest and mastery. The research specialist can train a student in research techniques and lead him into the intricacies of a narrow field, but he can not from the nature of his work and interests possess the perspective and the sense of relative values to pass on to the student. Rarely do we find a professor whose talents are so varied that he can do both well. They are the exceptions which prove the rule.

Often as the writer contrasts the earlier period of college teaching with the present with its research emphasis the fear arises that one may become very learned in one field but relatively ignorant in others, that one may secure a mastery of this one field and yet outside of it become intellectually and culturally poverty stricken. Extreme specialization and research may be said to be centripetal in their effects upon the individual, whereas the teacher-scholar attitude may be said to be centrifugal. One works more and more toward an ever-narrowing center seeing within that field with greater and greater clarity; the other works from a center relating it to other phases of human thought and action. The research specialist tends to become detached and to have a distorted view-point of the realities of life. The teacher-scholar becomes increasingly able to place his own special field in its proper relationship to the other fields of human thinking.

Why not, then, frankly recognize this in our colleges and universities? Let us recognize and reward both types of individuals and put them in their proper places. Many university leaders emphasize the training of graduate students and assume that the training of the undergraduate (in practice if not in theory) is of less importance. The fallacy of this is apparent when one considers that most of the leaders of business, of politics and of all phases of civic life except the technical and the scientific will come from the ranks of the undergraduate students. Graduate work and training are for invention and discovery; undergraduate training is largely for civic-social leadership and for the socialization of inventions and discoveries. Further, the undergraduate trained broadly under teachers with perspective and a sense of relative values will provide the finest type of graduate student.

A recognition of the need for both types of faculty members would enable the whole group to work to greater advantage. The research adapted professor could turn out more and better research. The teacher-scholar of broad perspective could do better teaching and feel freed from the necessity for doing extensive research work, much of which only pads the pages of our journals. We would have better teaching and admittedly less research, but work of greater significance and quality would result. In the writer's own field one could reduce the number of studies reported in the journals to the best one third with a gain for all concerned.

The above is but an application of the known facts of individual differences (so thoroughly established by psychological research) to faculty personnel administration at the university level.

It would, the writer feels, infuse a new spirit into university teaching. The teacher of breadth and perspective, while none the less scientific in attitude and perhaps even more so, would be able to touch the imagination of the student and to make science interesting as it really is. Much of our present criticism of the college student for lack of intellectual interests is a defence mechanism which blinds us to the fact that all too often the teaching is but a dreary, dull enumeration of facts which need to be interpreted and vitalized, not just handed out. Our students, far more often than we think, are eager for an understanding of themselves and their environment, but they fail to find satisfaction for that urge in a memorization of facts and of principles in the abstract. The application and the relation of laws and principles is not easy—often indeed this may be as difficult as was the original discovery of the principles, which by the way was a process of induction growing out of concrete experiences, *i.e.*, the scientific law was first lived, then written.

In conclusion the plea of this article is for the recognition of the varying talents of faculty members and for an effort to capitalize to the utmost the abilities found. Let us not say to every professor: "You must teach, you must do research, you must do some administrative work." Rather let us recognize and reward special ability wherever it is found. Provide for the research-talented scholar as never before and free him from undergraduate teaching which so often he regards as a burden. Give over to the teacher-scholar these undergraduate classes and let him know that if he teaches well he will be honored and rewarded and not as is all too common at present regarded as unproductive and inferior. Let the researcher produce new knowledge, let the teacher-scholar relate that knowledge to life. One is the producer, the other the interpreter and disseminator. Both are needed, neither should be despised. Whatever society rewards and honors will develop increasingly. If our university leaders are sincere in their expressions of concern for creative teaching the way to secure such teaching will be found in large part through the reward and the recognition of outstanding work in the classroom.

L. W. MILLER

UNIVERSITY OF IOWA

HIGH SCHOOLS AND COLLEGES

AMAZEMENT, merging rapidly into deep satisfaction, swept over the writer's mind as he read Dr. Palmer's paper on "Choosing High-School Courses with the Aim of Preparing for College."[1] Twice he looked up at the date, to make sure that he had not picked up by mistake something from the year 1895, for much of the article might have come from that halcyon era. There was the gentle, paternalistic, Victorian attitude, the smooth, scholastic phraseology, and even the famous quotation from William De Witt Hyde, which has elicited so much ribald profanity from modern college students. And its calm assumption that a college education is the greatest thing on earth was in such violent contrast with the devastating iconoclasm of Stogdill[2] and Kilgariff[3] which had appeared a few weeks earlier! It was impossible to decide whether Dr. Palmer was serious, subtle or merely simple.

Educationist reactions to published research are incalculable. The present writer recently published a brief note on high-school and college chemistry.[4] The only comments which reached him by way of response were rather ill-natured protests against "the contention that high-school students acquire very little formal, permanent knowledge during their high-school careers." It is not often that educationists condescend even thus far in response to the plaintive moans of college teachers over the rapid disintegration of secondary education.

Originally the chief function of the high school was to prepare students for college. Some twenty years ago they began to declare their independence of university domination. The great rebellion has now approximately reached the Yorktown stage. The high schools are free. Having rather generally extended their sphere back into the seventh and eighth grades of the primary system they now bring the youth of the whole nation into their organization and constitute the largest and most powerful division of our educational scheme. They dominate everything else. Our colleges and universities have become secondary, specialized adjuncts of the high-school system.

One wonders just what Dr. Palmer had in mind when he wrote this antiquated advice to

[1] SCHOOL AND SOCIETY, 32: 825, p. 514, 1930.
[2] SCHOOL AND SOCIETY, 32: 821, p. 378, 1930.
[3] SCHOOL AND SOCIETY, 32: 821, p. 382, 1930.
[4] SCHOOL AND SOCIETY, 32: 815, p. 206, 1930.

would-be college students, based upon the quaint assumption that it was still possible to get prepared for college in our present-day high schools. He must know that few high schools now offer anything like thorough-going courses in English, mathematics, or the other fundamental prerequisites of a successful college career. These things the student must pick up, if ever, after entering college. Perhaps Dr. Palmer had in the back of his mind the idea that our high-school educationists could be shamed into some reversion towards classical educational ideals. If so, it must be considered very doubtful whether our educationists are capable of any such emotion. On the other hand, he may hope that his direct appeal to the prospective college students themselves, over the heads of the high-school authorities, might start a movement among the young people and their parents and ultimately work up a demand for sound, fundamental high-school instruction which the educationists would be unable to ignore. Some promise of success may lie along that line of attack, for in time there is bound to be a revulsion against the present scattered superficiality of high-school teaching and a revival of genuine scholarship.

There is no need of any quarrel between high schools and colleges. During the past generation the high school has had thrust upon it the stupendous task of training for life, citizenship, economic efficiency and social duties the youth of the whole nation. What its success will be in this unprecedented undertaking another generation will show. The service of the college system will always be limited to a select—or at least a selected—class. If the high-school system chooses more and more to leave the university out of its reckoning—if it feels that traditional educational subjects and methods are not adequate to its new task—that is its own business. It must be admitted that when the great crisis arose the universities offered no clear leadership, but weakly let the educational helm slip out of their hands. They failed to visualize a nation of high-school students or to make any adequate provision to guide along fruitful, effective lines the educational deluge. Hence it has largely gone its own way, devastating at times as well as fertilizing, and will continue to do so.

The universities must meet the situation as it is. They, in reciprocation, must more and more count the high school out of their reckoning. They must perfect a technique for sorting out from among high-school "graduates" those of sufficient intelligence and independence to carry some portion of their elementary training through the leveling mediocrity of the high-school period. The colleges must learn to do this for themselves. Only grudgingly do the high-school authorities make any attempt, however casual and superficial, to carry out this classification, for it seems to them something like a denial of their chief aim, which is to educate everybody as far as anybody needs to be educated. Already many universities have begun the necessary work of inaugurating "subfreshman" courses in English and mathematics. Not only should this plan be farther extended, but it should be made possible for students of promise and scholastic ambition to enter these classes straight from the eighth or ninth grades and thus entirely eliminate at least the latter part of the high-school period, which, from the college view-point, is now largely wasted.

G. WAKEHAM

UNIVERSITY OF COLORADO

SPECIAL CORRESPONDENCE

THE NEW ADMISSION REQUIREMENTS OF THE UNIVERSITY OF CALIFORNIA

THE approaching January will be the last time that students may be admitted to the University of California under the present entrance requirements. Beginning in August, 1931, a new procedure will go into effect which was adopted by the university upon a suggestion of the California High School Principals Association put forward in the spring of 1928.

Under the existing plan "the university does not prescribe the subjects to be studied in the high school, but accepts any recommended graduate of an accredited high school in California and admits him without examination to the college of his choice." It is said that the high-school authorities of the state, to whom the

responsibility of recommendation was delegated about ten years ago, were finding it "difficult to determine and administer proper standards for the recommendation."

The principle of the new plan is that the University of California sets up a nucleus of subjects to be completed by the student in the high school—"subjects which are regarded as important prerequisites for university work"; and the university itself accepts or rejects applicants for admission to freshman standing without calling upon high-school principals for recommendation.

The details as to acceptance have been officially stated as follows:

> Applicants, in order to be accepted *without examination*, will be required to present (1) evidence of high-school graduation; (2) a high-school record of at least 15 units, including a core of 12 academic units, specified in part, and (3) a scholarship record showing evidence of superior attainment in 10 of the 12 academic units. [Grades of "1" (A) or "2" (B) are elsewhere specified, with no grade lower than "3" (C) in any of the 15 units.]
>
> High-school graduates applying for admission *by examination* will be required to pass entrance examinations in only three fields of high-school studies, provided that they have completed in the high school at least 15 units, including the subjects specified for the academic core. [The examinations are elsewhere indicated as those of the College Entrance Examination Board.]

When circulars setting forth the 1931 plan of admission were distributed last May among secondary school authorities throughout the state, the latter at once appealed to the university for certain modifications as to restricted and unrestricted electives. The schoolmen also asked for the inclusion of physiology as a subject acceptable for admission. The university promptly adopted these suggestions. They are included in the high-school program, which now stands as follows:

	Units
(*a*) History	1
(*b*) English	3
(*c*) Mathematics (elementary algebra and plane geometry)	2
(*d*) Science: a third- or fourth-year subject with laboratory (chemistry, or physics, or biology, or zoology, or botany, or physiology)	1
(*e*) Foreign language (in one language)	2
(*f*) Advanced mathematics; or chemistry, or physics (if not offered under (*d*); or additional foreign language in the language offered under (*e*) (if in another foreign language, two units will be required)	1 (or 2)
(*g*) Unrestricted electives	5 (or 4)
Total required for admission	15 units

Because of the changed basis for admitting students to the freshman class the University of California has discontinued publishing the pamphlet "Scholarship Rating of Accredited Secondary Schools," but will send to each accredited secondary school, for its own information, reports on the records of freshmen received from the school "and a statement by letter of the school's rating, computed as heretofore." This action was taken by agreement with the Principals Section of the Joint Affiliation Committee.

In interviews, President Sproul, Vice-President Deutsch and Recorder Steele expressed in behalf of the University of California their appreciation of "the fine spirit of cooperation shown in working out the new admission procedure by representatives of the secondary schools and of the State Department of Education." The university authorities realize that entirely satisfactory answers may not have been found to all questions involved, but, in the words of President Sproul, "Progress has been made and mutual confidence has been engendered in high degree. Moreover, a means of communication has been established which should make it possible in the future to solve adequately and without unreasonable delay perplexing questions which may arise concerning adjustment between these two elements of the educational system in the State of California."

For students desiring to transfer to the University of California with advanced standing—and such students are of course numerous in California—the new regulations, effective in August, 1931, contain the general provision that an applicant "must present evidence satisfactory to the board of admissions respecting the work completed by him at other collegiate insti-

tutions and the grade of scholarship attained therein." The specifications as to satisfactory evidence include eligibility at the time of graduation from high school for admission to the University of California without examination. The new rules permit applicants not so eligible "to hasten their admission to the university if they so desire" by removing "deficiencies existing at the time of graduation from high school" by work in another collegiate institution. Such work will "yield no credit toward advanced standing in the university."

RAYMOND WALTERS
SWARTHMORE COLLEGE

QUOTATIONS

THE CHILDREN'S CHARTER

THE bill introduced by the British Minister of Education, in the midst of the World War, has been called "The Children's Charter." But the program enacted under it is not comparable in its concern for the child with that adopted last Saturday by the White House Conference. To be sure, this American "Children's Charter" is only a statement of what should be done by public and private agencies; but, with so authoritative and powerful a sentiment behind it, the childhood of this country is assured such understanding of its needs and protection of its "rights" as earlier generations have not known.

Of the eighteen provisions, at least half have to do directly with the child's health, and an additional one is concerned with the care of the mother during the pre-natal and post-natal periods. Every child should have all of these health protections: periodical health examinations; dental examinations and care; instruction in health and safety from accidents; protection from communicable diseases; proper sleeping rooms, diet and hours of sleep and play; proper seating, lighting, ventilation and sanitation of the schools; adequate facilities for play, play being one of its inalienable rights in the pursuit of happiness, and protection against "labor that stunts growth, either physical or mental, that limits education, that deprives children of the rights of comradeship, of joy and play." Other provisions assert every child's right to some form of religious, moral and character training, to "the feeling that it is entitled to a home" and to special training if handicapped, and to support if a waif or orphan.

It is emphasized that all these obligations must be met by local units—district, county or community—in a coordinated state-wide program, the Federal Government's part being the gathering and giving of information. In Secretary Wilbur's graphic statement: "Uncle Sam is not going to rock the baby to sleep." The hope expressed by President Hoover at the opening of the conference has been well rewarded in this presentation of a series of conclusions and judgments of "unprecedented service." The surer paths to the health, well-being and happiness of children have been indicated. It remains for parents and for the local health, social and educational agencies, public and private, to set the children's feet upon these paths; for it is upon the feet of healthy and instructed children that civilization advances. Parents or communities that fail to do their best to comply with the provisions of this charter will deserve the scriptural fate of those who cause little ones "to offend" or "to stumble."—*The New York Times.*

REPORTS

REORGANIZATION OF EDUCATIONAL WORK AT THE UNIVERSITY OF CHICAGO

PRESIDENT ROBERT MAYNARD HUTCHINS has announced the intention of the University of Chicago to abandon the traditional organization in which a student spends four years acquiring a fixed number of credits which automatically entitle him to a degree. The old type of graduate school also will be eliminated in the new order.

The present undergraduate college will be replaced by a new kind of college in which a student will be able to graduate whenever he can demonstrate by passing comprehensive examina-

tions that he has acquired a general education. Whether the student needs only one or four years depends on his own ability; he will not be hampered by a rigidly uniform system.

This new kind of college can not be developed overnight, but the first step in the program has been approved. Reorganization of the university into the professional schools and five main divisions, which replace the old divisions of college and graduate school, has just been sanctioned by the faculty and the board of trustees. This reorganization forms the framework around which the new educational method will be built.

The five main sections into which the university's work in arts, literature and science will hereafter be divided are the Social Sciences Division, the Physical Sciences Division, the Biological Sciences Division, the Humanities Division and the College. Over each division will be a dean with comprehensive knowledge of the work and problems of the various departments in his group.

The reorganization has been put into effect only after several years of intensive investigation and study by faculty groups of the university. It is based on the fundamental assumption that the faculty and administration will redefine the aim and extent of the university's educational effort. It contemplates that new courses must be devised that will cut across traditional departmental lines; that probably many of the present types of courses will be discarded.

Experiments in this direction have been in progress for five years in the so-called "Survey Courses" and "Honors Courses." The first of these courses attempted, "The Nature of the World and of Man," ranges through ten various departments in the natural sciences and has met with great success.

President Hutchins emphasized the fact that the university will not rush into the new plan without careful working out of all details. But the faculty and administration are agreed on the basic policy that education must cut loose from a system that has remained essentially unmodified since universities were first established in America and which is no longer adapted to modern needs.

The revision of the curriculum and the establishment of satisfactory standards of achievement and workable methods of measuring the student's progress by carefully framed comprehensive examinations will require considerable time and labor on the part of the university, but the main outline of this system has already been tentatively established.

President Hutchins also stressed the point that the new educational system at Chicago will not make greater demands upon the ability of students than did the old college. The advantages will be that able students will save time in getting their education and that the average will get a better education than they now receive.

The transition from what is now the college level to what at present is the graduate level will be an easy and natural one under the new method, instead of the abrupt change that now is made. The sharp line that hitherto has divided the graduate school from the undergraduate college will be removed and all the work in special fields above the "general education" level will be merged in the four divisions.

The student will graduate from the college whenever his general education is complete and he can prove the fact by passing the comprehensive examination. For those who pass with a satisfactory degree of excellence, the next step will be entrance to one of the upper divisions or to a professional school. For those who merely pass, graduation from the college means an honorable exit for the man who wishes only a general education.

Once in an upper division, the student will graduate by the same means that he entered—by passing a comprehensive examination. The professional schools will award all professional degrees and the divisions will be responsible for the award of all non-professional degrees, including the equivalent of the present bachelor's degree now granted at the end of four years of work.

The bachelor's, master's and doctor's degrees are to be granted on the recommendation of the entire division and not by one department.

The reorganization already in effect, which in a large measure establishes divisional rather than departmental autonomy, will mean an immediate encouragement of undergraduate teach-

ing, for now the college, instead of the various departments will control the budget devoted to general education. The job of the college will be that of teaching, and its funds will be devoted to that purpose; the faculty of the college will be expected to contribute to the improvement of general education. Under the departmental régime in many institutions, attention to teaching usually means a sacrifice for the faculty member because the department is inclined to regard teaching as a side line and productive research as the main objective.

Under the projected reorganization, each member of the faculty in the college will also be a member of a division. In this way, the college teacher will not be cut off from the developments of his own field, but instead will keep abreast of progress in his particular specialty and so be a more informed and able instructor.

Hereafter the chairmen of departments in arts, literature and science will be directly responsible to the deans of divisions and the dean of the college. All budget recommendations, including appointments, promotions and advances in salary will be made to the appropriate dean. In the administration of the divisions, the deans will perform the same functions as dean of the professional schools.

The present assignment of the various departments to divisions, which may be changed in a few instances, is as follows:

The Humanities Division—Philosophy, art, comparative religion, Oriental languages, New Testament, comparative philology, Greek, Latin, Romance, Germanics, English.

The Social Sciences Division—Psychology, education, economics, political science, history, sociology, anthropology, home economics, geography.

The Physical Sciences Division—Mathematics, military science, astronomy, physics, chemistry, geology.

The Biological Sciences Division—Botany, physical culture, zoology, anatomy, physiology, physiological chemistry, hygiene and bacteriology, pathology, the south side clinical departments (the clinics group).

Four of the deans of the five new divisions have been named. Professor Gordon J. Laing, formerly dean of the Graduate Schools of Arts and Literature, is dean of the Humanities Division; Professor Henry G. Gale, formerly dean of the Ogden Graduate School of Science, is dean of the Physical Sciences Division; Dr. Richard E. Scammon, who recently came to the university from the University of Minnesota as professor of anatomy, is dean of the Biological Sciences Division, and Professor Chauncey S. Boucher, formerly dean of the Undergraduate Colleges of Arts, Literature and Science, continues as dean of the college. Dr. Frederic Woodward, vice-president of the university and dean of the faculties, will be temporarily in charge of the Social Sciences Division.

The broad objects of the divisional reorganization, as explained to the University Senate by President Hutchins, are "to improve administration by placing greater responsibility on officers who are familiar with the work of their respective divisions; to reduce the number of independent budgets presented to and administered by the president's office, to promote cooperation in research, to coordinate teaching and to open the way to experiments in higher education."

Significance attached to the immediate reorganization, so far as the university's advanced work is concerned, is that research on major problems which cut across present departmental boundaries will be facilitated. Such a project as the contemplated study of the growing child, which involves investigations by departments as widely separated as home economics and anatomy, will now be made under divisional auspices. Another important result of the correlation of departments is that advanced students in specialized work will be able to acquire a thorough grounding in the fields closely related to their special interests.

The change from the present methods of courses and credits can not be made abruptly, and the university authorities now think that they may be required to let the old type of effort overlap the new method for a period after the latter is put in effect. Some "credit bookkeeping," as a means of enabling a student to measure his achievement, and also to protect students who may wish to transfer to other institutions operating under present methods, may be required.

EDUCATIONAL RESEARCH AND STATISTICS

GROWTH CURVES AND IQ'S, AS DETERMINED BY TESTING LARGE FAMILIES[1]

THE PROBLEM

MENTAL growth may be defined as the maturing of inner capacities and tendencies. Our ability to measure it quantitatively is limited because we can not separate absolutely the effects of training from pure growth, there is no very sure means of equating the difficulty of various types of intellectual tasks, and our scales do not have an absolute zero. If, however, we keep in mind the fact that the score made on a mental test (called for convenience "mental age") is merely a brief means of expressing the reactive ability of the individual in relation to the norm, we are safe in trying to find out how rapidly this ability increases, as measured by current tests.

A number of solutions to the problem have been offered, but each seems to have some special fault which destroys its value. Such methods are: the plotting of curves from group-test norms, unreliable because standardization of tests on school-children involves a large degree of selection; the study of learning capacity,[2] vitiated because the character of the material learned has a very real effect on results; group-testing of an entire village population,[3] which involves sectional selection and is rendered less reliable by the fact that no single group test is adequate for all ages; the study of special traits, which presents the difficulty of differential growth rates, and lastly, yearly retesting of representative cases, which involves both selection and the practice effect.

Probably the best single test is the Stanford Binet, which has been of inestimable service in ranking intellectual ability. The IQ, which was developed with this test, is found by dividing the mental age score by the actual age, using sixteen, fourteen, or some other year as an upper limit of chronological age for individuals who have passed that birthday. Originally the IQ was used with the assumption that mental growth proceeds at a uniform rate up to the sixteenth birthday and ceases completely from that date onward.

A great deal of research has been made on the constancy of the IQ. The crux of the problem is doubtless a disagreement as to definition, as Stern points out.[4] Dearborn and Long[5] note that the IQ is a hybrid quotient, the result of dividing a non-additive (qualitative) series by an additive (quantitative) series, which by nature are not comparable. We may either consider the IQ as such a hybrid, then, which fluctuates from year to year within certain limits, reaching eventually a stable maximum, or we may define it as a constant measure of ability, in which case the divisor must be manipulated to yield a constant quotient. This paper is an attempt to demonstrate the possibilities of the latter method.

LARGE FAMILIES AS A KEY TO THE SITUATION

Since tests of siblings have demonstrated[6] that there is a correlation of .50 or more between the children of a family, testing all the members of a large family at one time is roughly equivalent to testing a single individual at intervals corresponding to the age of each child, for this correlation would indicate a decided clustering of scores about the central tendency of the family. There are, of course, certain variations in the ability of the different children in a family, but it is logical to believe that the effect of these deviations from the family average will be overcome by averaging the results secured from a number of families, as will be explained more fully later.

In obtaining the growth curve (No. 1) shown in Fig. 1, 200 cases representing 35 families were tested with the Stanford Binet; of these 35 families, 26 were tested by the writer and 9 by Miss Dorothy Rehm, to whom due acknowledgment is made for her kindness in furnishing these scores. The tests were given in the homes

[1] The method used in this study was suggested and the research work supervised by Dr. Robert S. Ellis.

[2] Thorndike, "Adult Learning," pp. 127 ff. Teachers College, Columbia University; Macmillan Company, New York, 1928.

[3] Jones, reported by Thorndike in "Adult Learning," p. 157.

[4] William Stern, "Theory of the Constancy of the IQ," *Psychological Clinic*, 1925, pp. 110–118.

[5] Dearborn and Long, "On Comparing IQ's at Different Age Levels on the Same Scale," *Journal of Educational Research*, November, 1928, pp. 255–275.

[6] Ethel Elderton and K. Pearson, "The Relative Strength of Nature and Nurture," second edition, University of Chicago Press, 1915.

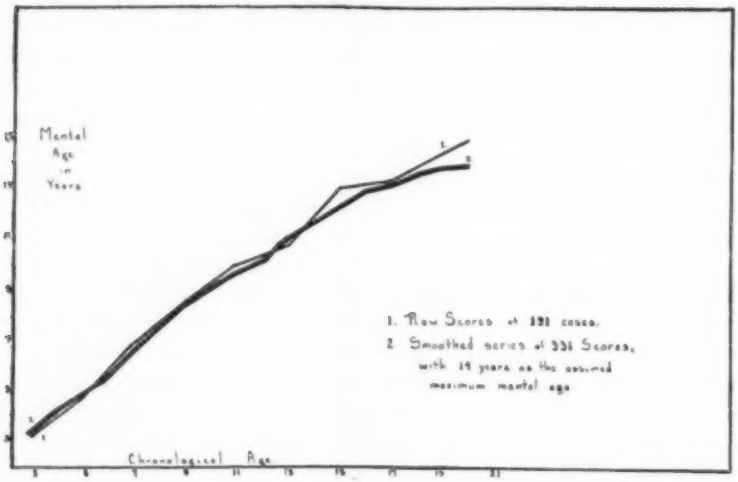
Mental Age in Years
Chronological Age
1. Raw Scores of 191 cases.
2. Smoothed series of 331 Scores, with 19 years as the assumed maximum mental age

Figure 1. Curves of Mental Growth

of the families under as uniform conditions as possible, and they appear to cover a fairly unselected group of the population.

The study of growth is concerned not only with the form of the ascending curve but also with the age at which the final level is reached. Willoughby[7] finds 17 to 25 to be the years during which the highest test scores are achieved, and from his data on the number-series test, a test relatively free from the effect of experience, 18 appears to be the probable age of maturity. Hart[8] notes a tapering off on the Army Alpha between 17 and 19. Jones,[9] also using Army Alpha, finds 20½ years as the acme. Florence Teagarden[10] in 1,600 measures of 400 children ages 12 to 20 discovers a decline at 17½ to 18, and Thorndike's experiments on sheer modifiability and learning[11] give 22 as the age of maturity. Because the factor of experience is partly responsible for high scores at the upper age levels, it seems safer to assume the maximum at 20 or below. In the present study, the major rise is nearly complete at 19, and the slight apparent rise after 19 is due to selection and paucity of cases.

If, as assumed, 20 is the true age at which maximum ability appears, this is the lowest age at which 14 years (or whatever other chronological age represents adult mental age) can be used as divisor. Chronological age divisors for the years earlier than this can be worked out in several ways. Among the simpler methods would be such devices as measuring the linear height of the curve at each year and computing the percentage this is of fourteen or using as divisors the average mental ages of the curve.

A method which yields scores more directly comparable, however, is to convert the mental ages of each family into a series spaced at yearly intervals, thus: the mental age of each child at the next birthday is found by proportion,

$$\frac{\text{Number of months until next birthday}}{\text{Difference in C.A. between the child and the one next older}} = \frac{\text{Increment sought}}{\text{Difference in M.A. of the two children}}$$

the increment added to the present mental age, and the gaps where more than one year separates the children filled in by extending the same formula. Nine cases, representing three families, were rejected from the 200 tested because the small number in each of the families might distort the results. When the remaining 191

[7] R. R. Willoughby, "Family Similarities in Mental-Test Abilities," Genetic Psychology Monographs, 2, pp. 235–277, 1927.

[8] H. Hart, "Slowing up of Growth in Mental Test Ability," SCHOOL AND SOCIETY, November 1, 1924, pp. 573–574.

[9] Jones, reported in Thorndike's "Adult Learning," p. 157.

[10] Florence Teagarden, "A Study of the Upper Limits of the Development of Intelligence," Teachers College, Columbia University, 1924.

[11] Thorndike, "Adult Learning," p. 106.

scores were treated in the above manner, the new series contained 331 scores, now strictly comparable because they are spaced at equal time intervals. The fact that they were obtained proportionally, which assumes straight-line growth, can not alter the true scores materially because of the short time intervals involved. When these scores had been computed, the mean for each year was found. By this device we are able to compare directly the per cent. each year is of the one above, and also the per cent. it is of the total or final level, if we are careful to use for comparison only those families with scores in both years, as shown in Table I. This table is read thus: 18 is 99 per cent. of 19 and 98 per cent. of the total (99 per cent. of 99); 17 is 97 per cent. of 18 and 95 per cent. of the total (97 per cent. of 98). At 20 the divisor is assumed to be 14; at 19 it is 99 per cent. of 14 or 13.86 years, and so on down the scale.

TABLE I

Number of families	Ages	Comparable averages	Per cent. of preceding year	Per cent. of total	C.A. divisors (decimal years)
5	21	15–5.1			
5	20	15–5.0	100.0	100.0	14.00
5	20	15–5.0			
5	19	15–3.5	99.0	99.0	13.86
7	19	14–8.6			
7	18	14–6.5	99.0	98.0	13.73
7	18	14–6.5			
7	17	14–1.1	97.0	95.0	13.30
8	17	13–11.0			
8	16	13–4.1	95.5	91.6	12.81
10	16	13–3.7			
10	15	13–1.5	98.5	90.3	12.63
16	15	13–0.0			
16	14	11–10.6	91.5	82.5	11.54
18	14	12–0.0			
18	13	11–2.5	93.5	77.2	10.81
23	13	11–1.1			
23	12	10–9.2	97.0	74.8	10.48
26	12	10–7.5			
26	11	9–8.0	91.0	68.1	9.53
27	11	9–7.3			
27	10	9–3.5	96.5	66.8	9.35
29	10	9–3.0			
29	9	8–5.4	91.5	61.0	8.55
27	9	8–5.1			
27	8	7–6.5	89.0	54.3	7.61
27	8	7–6.5			
27	7	6–6.8	87.0	47.3	6.62
25	7	6–6.2			
25	6	5–7.1	87.0	41.2	5.76
19	6	5–6.4			
19	5	4–6.5	82.0	33.8	4.73
15	5	4–5.0			
15	4	3–8.0	83.0	27.7	3.92
4	4	3–6.2			
4	3	2–10.2	81.0	22.4	3.17

Although the conversion into equally spaced units introduces a certain smoothing effect, a second smoothing seems desirable before the actual application of the results to the problem. This is done by the moving average of three method, except that the two extreme scores are left unsmoothed. From these smoothed scores a table of corrected divisors is computed by years and months, by the simple expedient of dividing each interval into twelve equal parts and converting the decimal years into years and months, to the nearest month. The appearance of the divisor 14–0 at 19–8 in Table II is explained by the practice just described of dropping fractional months.

The mechanism of this table can be illustrated as follows: Suppose a child aged 8–6 tests exactly 8 years on the Stanford Binet. Instead of an IQ of 94, as ordinarily computed, the adjusted IQ as evidenced by this method is 100, for following the 8-year line to the 6-month column one finds the correct divisor to be 8–0. That this new method gives a much greater uniformity is shown by computing the IQ's of the highest, the lowest and two of the average families tested.

A Justification of this Method

Although the total range by the new method is not so different from that by the old, the amount of variability in family scores is materially decreased, which is a desirable tendency, for from the evidence of genetics we must conclude that variations within a single family should be much smaller than variations in the population at large. The greatest difference appears in the adolescent period, when the deviation of the curve from the straight-line re-

TABLE II
Corrected Chronological-Age Divisors

Year	Months											
	0	1	2	3	4	5	6	7	8	9	10	11
3	3–2	3–3	3–4	3–4	3–5	3–6	3–6	3–7	3–8	3–9	3–10	3–11
4	3–11	4–0	4–1	4–2	4–3	4–4	4–4	4–5	4–6	4–7	4–8	4–9
5	4–9	4–10	4–11	5–0	5–1	5–2	5–3	5–4	5–5	5–6	5–7	5–7
6	5–8	5–9	5–10	5–11	6–0	6–1	6–2	6–3	6–4	6–5	6–6	6–7
7	6–8	6–9	6–10	6–10	6–11	7–0	7–1	7–2	7–3	7–4	7–4	7–5
8	7–6	7–7	7–8	7–9	7–10	7–11	8–0	8–1	8–2	8–3	8–4	8–5
9	8–6	8–7	8–7	8–8	8–9	8–9	8–10	8–10	8–11	9–0	9–0	9–1
10	9–2	9–2	9–3	9–4	9–4	9–5	9–5	9–6	9–7	9–7	9–8	9–9
11	9–9	9–10	9–10	9–11	9–11	10–0	10–0	10–1	10–1	10–2	10–2	10–3
12	10–3	10–4	10–5	10–5	10–6	10–7	10–7	10–8	10–9	10–9	10–10	10–11
13	10–11	11–0	11–1	11–1	11–2	11–3	11–4	11–4	11–5	11–6	11–6	11–7
14	11–8	11–9	11–9	11–10	11–10	11–11	12–0	12–1	12–1	12–2	12–2	12–3
15	12–4	12–5	12–5	12–6	12–6	12–7	12–7	12–8	12–9	12–9	12–10	12–10
16	12–11	12–11	13–0	13–0	13–0	13–1	13–1	13–1	13–2	13–2	13–3	13–3
17	13–3	13–4	13–4	13–5	13–5	13–5	13–6	13–6	13–7	13–7	13–7	13–8
18	13–8	13–8	13–8	13–8	13–9	13–9	13–9	13–9	13–10	13–10	13–10	13–10
19	13–10	13–11	13–11	13–11	13–11	13–11	13–11	13–11	14–0	14–0	14–0	14–0

lation is most marked. This again is a point in favor of the method since it affords a basis for the recognition of the curvilinear form of growth.

There are numerous articles in current psychological journals on the reliability of the IQ and its use in mental testing, and the methods in use seem often to lead to decidedly contradictory conclusions. Under such conditions it is well to find some new means of approach to the controversial problem which may make possible an entirely new view-point. Such a function the large-family method can well be expected to perform. It is free from most of the errors of other devices and an extended study of sufficient cases can reduce the effect of selection to a minimum.

A further merit is that it fits the facts of mental growth as we know them. Curves of physical growth are demonstrably curvilinear, and it is reasonable to suppose, as the curves in Fig. 1 indicate, that rapid bodily growth in-

Child number	1	2	3	4	5	6	7	8	9	10
IQ (16-yr. maximum)	100	122	122	116	113	116	134	150	143	150
IQ (14-yr. maximum)	114	139	139	132	136	116	134	150	143	150
IQ (new method)	114	139	139	134	140	141	157	155	151	153
IQ (16)	83	53	69	50	59	62				
IQ (14)	83	53	69	50	59	62				
IQ (new)	93	57	72	53	61	63				
IQ (16)	72	77	77	82	87	95				
IQ (14)	83	81	77	82	87	95				
IQ (new)	89	91	84	91	92	95				
IQ (16)	116	89	69	100	90	72	104	80	90	
IQ (14)	132	101	79	107	90	72	104	80	90	
IQ (new)	132	101	85	122	107	91	110	82	93	

hibits to a certain extent mental growth and, since physical development is not complete until 18 in girls and 21 in boys, that intellect certainly does not become mature much before that time. Taking fourteen or sixteen as the age of complete ability means nothing more than that adults tested with the Stanford Binet make the same scores as do school children of those ages, and it is a recognized fact that even 14-year-old school children are a highly selected group. Then, too, the groups upon which the Stanford Binet was standardized were undoubtedly well above the average of the population at large, so that the children we have been calling normal are several points above average and the true normal youngsters are classified as dull.

In demonstrating that growth is curvilinear in nature rather than rectilinear, this study agrees with those of Pyle,[12] Thorndike,[13] Baldwin and Stecher[14] and Willoughby.[15] It follows, then, that a table of divisors such as Table II is fairly accurate, and even though the cases upon which it is based may not be strictly representative, the method of obtaining the results is statistically legitimate and justified by the exigencies of the case.

APPLICATIONS AND CONCLUSIONS

The disadvantages of the device suggested here are that it substitutes two operations for one (first, looking up the correct divisor, and second, the actual computation of the IQ) and that there is some disagreement concerning the mental-age level which represents adult ability or, in other words, the maximal age to be used as C.A. divisor. Dearborn[16] suggests 14½ years, Doll[17] 13½, Terman 16, Kuhlman 15, and many workers use 14. A device which eliminates the necessity for assuming a maximum age is the calculation of the probable final mental level to be attained by the individual. This can be worked out by computing the reciprocals of the percentages of column 5, Table I. After smoothing these, as described above, we can use the reciprocals as multipliers of any obtained mental age to determine the final level of the individual, as in Table III.

A child who at ten years tests exactly ten years will when grown reach a final level of 10×1.52, or 15 years 2 months. This product is considerably above the average maximum, and so he is a superior child. In this way we do not need to calculate a quotient of any sort, but can consider the final mental level as the criterion of intellectual ability.

TABLE III

Age	Per cent.	Reciprocal	Age	Per cent.	Reciprocal	Age	Per cent.	Reciprocal
20	100.0	1.00	14	83.3	1.20	8	54.2	1.84
19	99.0	1.01	13	78.2	1.28	7	47.6	2.10
18	97.3	1.03	12	73.4	1.36	6	40.7	2.45
17	94.9	1.05	11	69.9	1.43	5	34.2	2.92
16	92.3	1.08	10	65.5	1.52	4	28.0	3.57
15	88.1	1.13	9	60.7	1.65	3	22.4	4.46

A scheme which has the merit of dispensing with computation, proposed by Ellis,[18] is that we build up a chart or series of curves from which the final mental level of the individual tested can be read directly, or a similar chart can be devised for the direct reading of IQ's. Either type of chart can be constructed by using appropriate per cents. of the values in Table

[12] W. H. Pyle, "The Examination of School Children," Macmillan, New York, 1913.

[13] E. L. Thorndike, "Measurement of Intelligence," pp. 466–467, Teachers College, Columbia University, New York.

[14] Baldwin and Stecher, "The Mental Growth Curve of Normal and Superior Children," University of Iowa Studies in Child Welfare, Vol. 2, no. 1.

[15] R. R. Willoughby, "Family Similarities in Mental-Test Abilities," Genetic Psychology Monographs, 2, pp. 235–277, 1927.

[16] W. F. Dearborn, "Intelligence Quotients of Adults and Related Problems," *Journal of Educational Research*, 6: 307–325, 1922.

[17] E. A. Doll, "The Average Mental Ages of Adults," *Journal of Applied Psychology*, 3: 317–328, 1919.

[18] R. S. Ellis, "The Psychology of Individual Differences," p. 234, Appleton, New York, 1928.

II; for example, the 50–IQ curve would fall at points equivalent to one half the values at each level of the average curve, and the 150–IQ curve at points 1½ times the average. Before this can be done, however, we must determine by rigorous methods whether, as Doll[19] finds, the very inferior stop growing much earlier and the very superior much later than the average. If Doll's contention is correct, separate investigations for each group must be made.

Further study of mental growth will be greatly helped by a scientific predictive measure and a system whereby quantitative results can be obtained. For this purpose, the group test has some advantages over the Binet type and the study of a large number of families representative of all social classes—and it may be remarked that more large families exist among the upper classes than most people suppose—can in the future make a real contribution to the quantitative aspect of growth.

As a matter of course the IQ's by this method will not conform to those in the tables used for separating feeble-mindedness, average ability and superiority. The general indication of the present study is that if this device becomes standardized, much more critical distinctions between the classes can be drawn on the basis of intelligence alone than can be made now, since the element of fluctuation is largely if not entirely eliminated. This would be of considerable service in furnishing a reliable index for classifying border-line individuals into institutional or non-institutional cases.

Working on entirely different projects, McFadden[20] and Grace Arthur[21] reach the same conclusion—that there is a progressive decline in sibling intelligence from eldest to youngest. This disparity, which McFadden suggests may be due to a fault in the scale for determining IQ's, is probably accounted for by the curvilinear nature of growth. A rather closely allied finding and one which is capable of explanation in the same manner is the decline in intelligence quotients reported by Freeman, Holzinger and Mitchell[22] in children of ages four to twelve and by Ethel Elderton.[23] The curvilinear form of growth must of necessity cause a negative deviation from the straight line beginning at a point near the origin and continuing so up to the age of maturity, thus making the quotients based on straight-line growth fall lower and lower up to the point of maximum deviation, with a probable, though not yet demonstrated, subsequent swing upward again to the norm. Stating the case from the other direction, an apparent decline in intelligence during the period up to adolescence actually proves the existence of the curvilinear relation.

Whether or not there is an actual difference in the ages at which the different degrees of intelligence reach their period of arrest as is reported by Doll in the work cited above, we at least have an explanation of one cause for the observed increase in IQ of superior children and decrease in inferior individuals. Since the superior child reaches a higher and the inferior a lower final level than the average, and since the law of developmental pace points out the fact that superior, average and inferior developmental curves never coincide or cross one another, we should expect the superior child's IQ to become increasingly larger and the inferior child's IQ to become smaller as the curve of growth deviates more and more from the average and from the straight-line form.

Probably the most fruitful of the many problems to whose solution this new method can lend assistance is the study of the growth rates of specific traits—memory, various types of sensory acuity, motor capacities, etc. It is essential that we come to understand the differential rates of development of these traits, for it is a functional synthesis of them in the individual that we are accustomed to label "intelligence."

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[19] E. A. Doll, "The Growth of Intelligence," *Psychological Monographs*, 29, No. 2, 1928.

[20] J. H. McFadden, "A Further Note on the Differential IQ's of Siblings," *Journal of Applied Psychology*, 13, February, 1929.

[21] Grace Arthur, "The Relation of IQ to Position in Family," *Journal of Educational Psychology*, 17: 541–550, 1926.

[22] Freeman, Holzinger and Mitchell, "Influence of Environment," Chapter IX, p. 192, Twenty-seventh Yearbook of the National Society for the Study of Education, 1928.

[23] Ethel Elderton, "A Summary of the Present Position with Regard to the Inheritance of Intelligence," *Biometrika*, 1923, pp. 378–408.